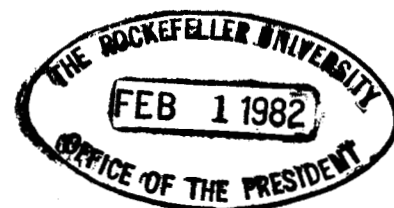


January 26, 1982

SJB-82-18



Dr. J. Lederberg, President
Rockefeller University
1230 York Avenue
New York, NY 10021

Dear Dr. Lederberg:


We have searched the literature regarding the biotransformation of isobutane and t-butanol. We find no report of their use or investigation either in the literature or by workers active in the hydrocarbon oxidation field.

One can speculate, of course, regarding the metabolism of isobutane, e.g. via isobutyl alcohol, isobutyraldehyde and isobutyric acid. Other routes could include oxidation of the 3^o carbon to yield t-butanol which could then be further oxidized by attack at a 1^o carbon to eventually yield an α hydroxy carboxylic acid.

All of these schemes are quite speculative, of course, and indeed might even occur simultaneously depending on the specificity of the enzymes (e.g. methyl monooxygenase is known to hydroxylate alkanes non-specifically at both the primary and secondary carbons.

To sum up, there is really no valid information regarding the products of the oxidation of isobutane and isobutanol. If I may be of further assistance, please don't hesitate to let me know.

Very truly yours,


Sol J. Barer, Ph.D.
Manager, Biotechnology

SJB/ml

cc: L. I. Peterson
D. R. Wilson